Quarterly Report

Covering July 1, 2006 to September 30, 2006

Submitted October 3, 2006

Project Title

Warm Water Species Fish Passage in Eastern Montana Culverts

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Introduction

This progress report covers work completed between July 1, 2006 and September 30, 2006. Work on the project during this period has been primarily devoted to the collection of field data with some preliminary data analysis.

Project Objective

Culverts are a common and often the most cost effective means of providing transportation intersections with naturally occurring streams or rivers. Fish passage and fish habitat considerations are now typical components of the planning and design of waterway crossings. Many culverts in Montana span streams that support diverse fisheries. The health of these fisheries is an essential element of a recreational industry that draws hundreds of thousands of visitors to Montana annually. Additionally, there is growing recognition of the value of native Montana species, some of which are considered 'species of special concern' in the state. In recent years these concerns have become apparent for warm water species in low gradient, high sediment bearing, intermittently flowing streams that are typical of eastern Montana.

Transportation system planners, designers and managers recognize that fish passage through Montana's culverts is a concern. However, there is much contention concerning the impact that a culvert can have on a fishery. Recent basin-wide studies of various trout species that we conducted in western Montana indicate that the tools that some planners and designers promote for forecasting fish passage concerns may be overly conservative. Which species, life stages, and how many individuals must have fish passage access for how long, are questions that are often brought forward during discussions on the design and retrofitting of culverts to accommodate fish passage concerns. ***The problem is that for warm water fish species and settings in eastern Montana, the timing and number of fish that must pass a culvert to maintain viable species diversity in the watershed is unknown, and the physiologic abilities of these species relative to such common fish passage questions are often unknown.***

Progress

The time period covered in this report was entirely devoted to collection of field data. The mark-recapture experiments were successful at all locations. There were cases where the protocol was adapted to the situation - using electrofishing where applicable, sometimes in combination with multiple seining passes. The field equipment is being retrieved now, and data analysis will begin soon.

Figure 1. Double netting to avoid debris jams on Sand Creek.

Figure 2. End of treatment netting on clear creek.

Budget

Expenditures for this cycle are largely a result of stipends. The planned and actual expenditures deviate due to a change in project personnel. Stipends will be shifted to remaining personal to accomplish all the project goals as we finish out the project.